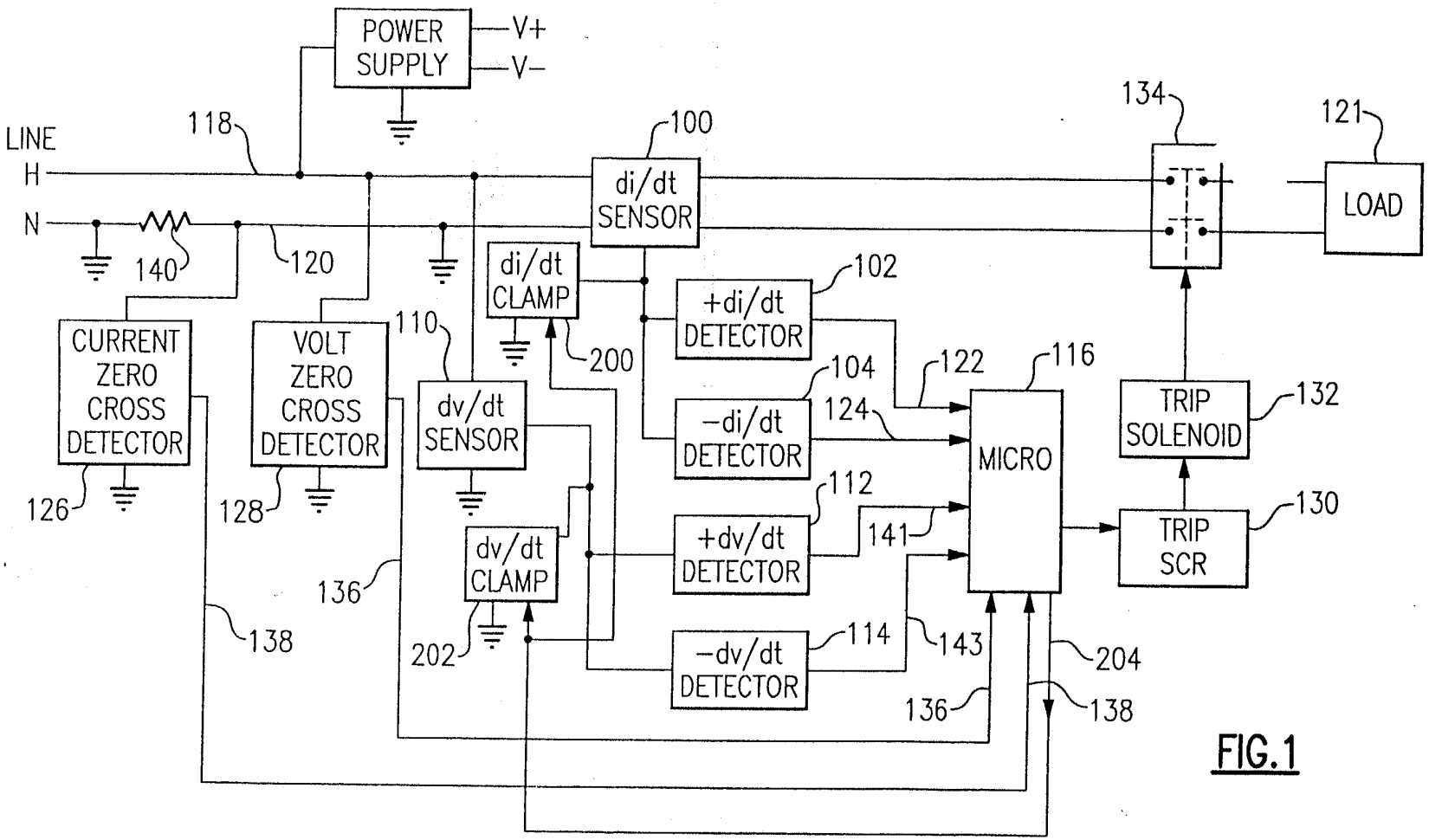

POWER SUPPLY
V+
V-
LINE
H
N
118
100
di/dt SENSOR
134
121
LOAD
140
120
di/dt CLAMP
+di/dt DETECTOR
102
CURRENT ZERO CROSS DETECTOR
VOLT ZERO CROSS DETECTOR
110
dv/dt SENSOR
200
104
122
116
-di/dt DETECTOR
124
MICRO
TRIP SOLENOID
132
126
128
112
+dv/dt DETECTOR
141
TRIP SCR
130
dv/dt CLAMP
136
138
202
114
143
204
-dv/dt DETECTOR
136
138

FIG.1

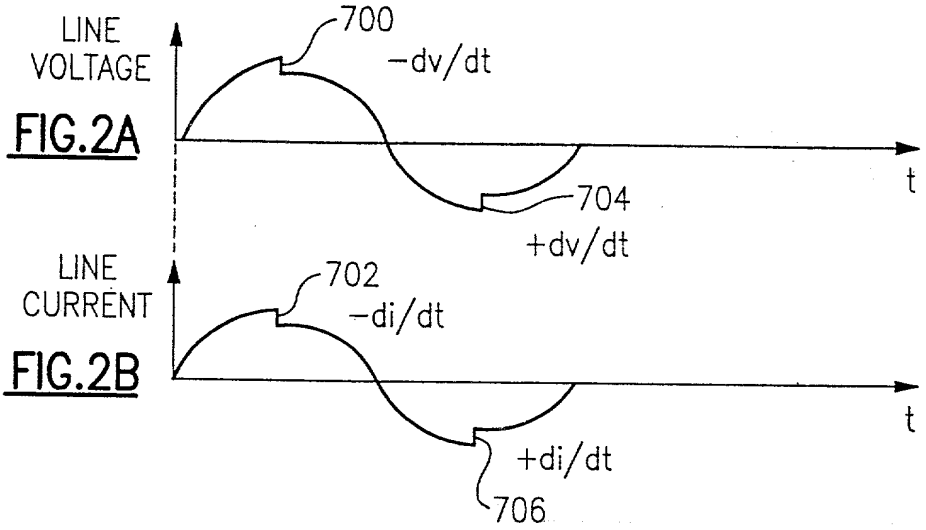


FIG.2A

FIG.2B

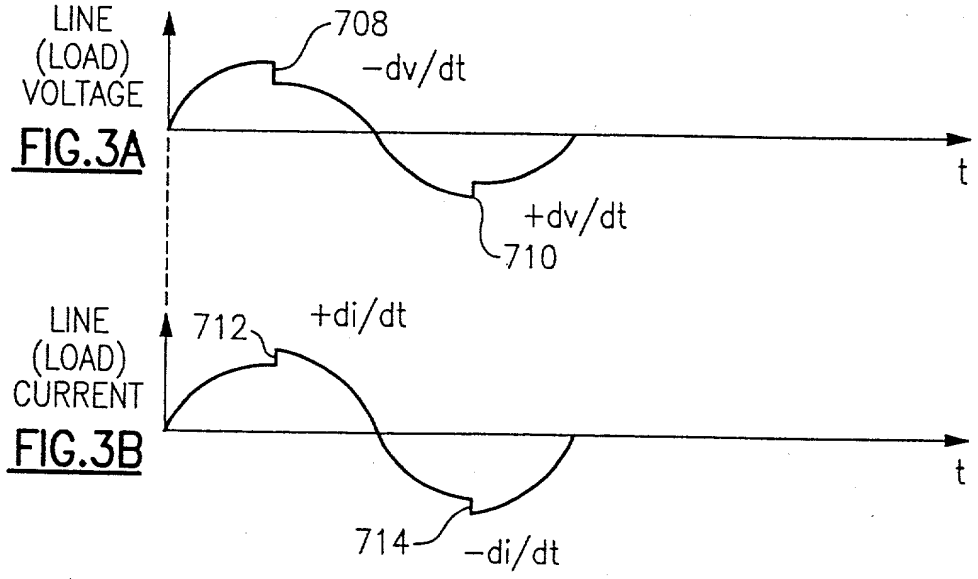


FIG.3A

FIG.3B

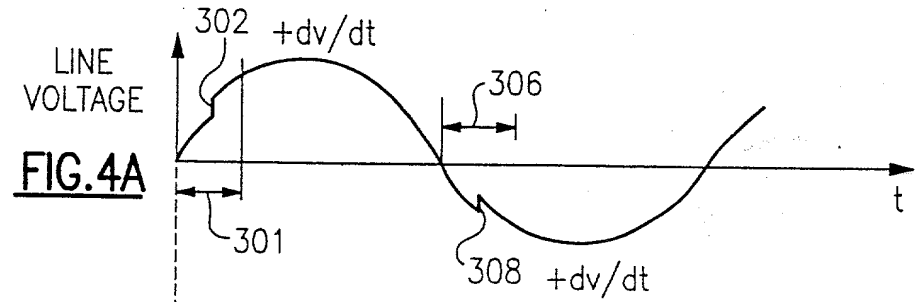


FIG.4A

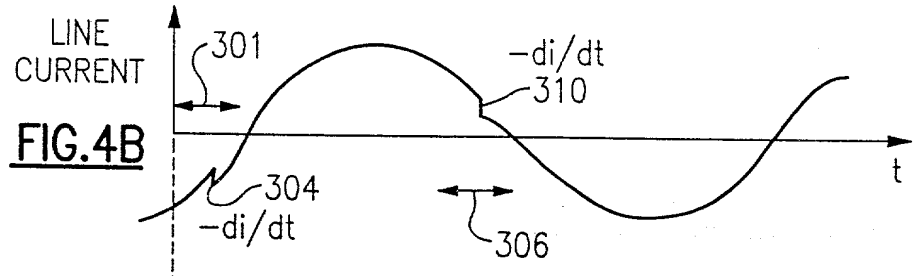


FIG.4B

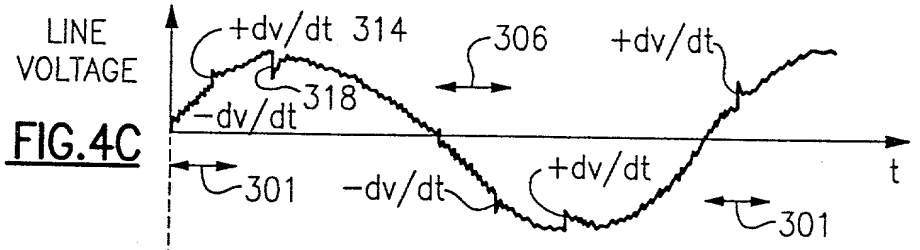


FIG.4C

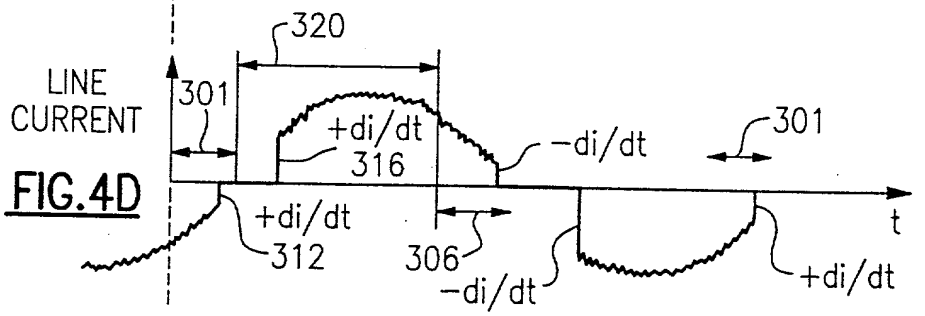
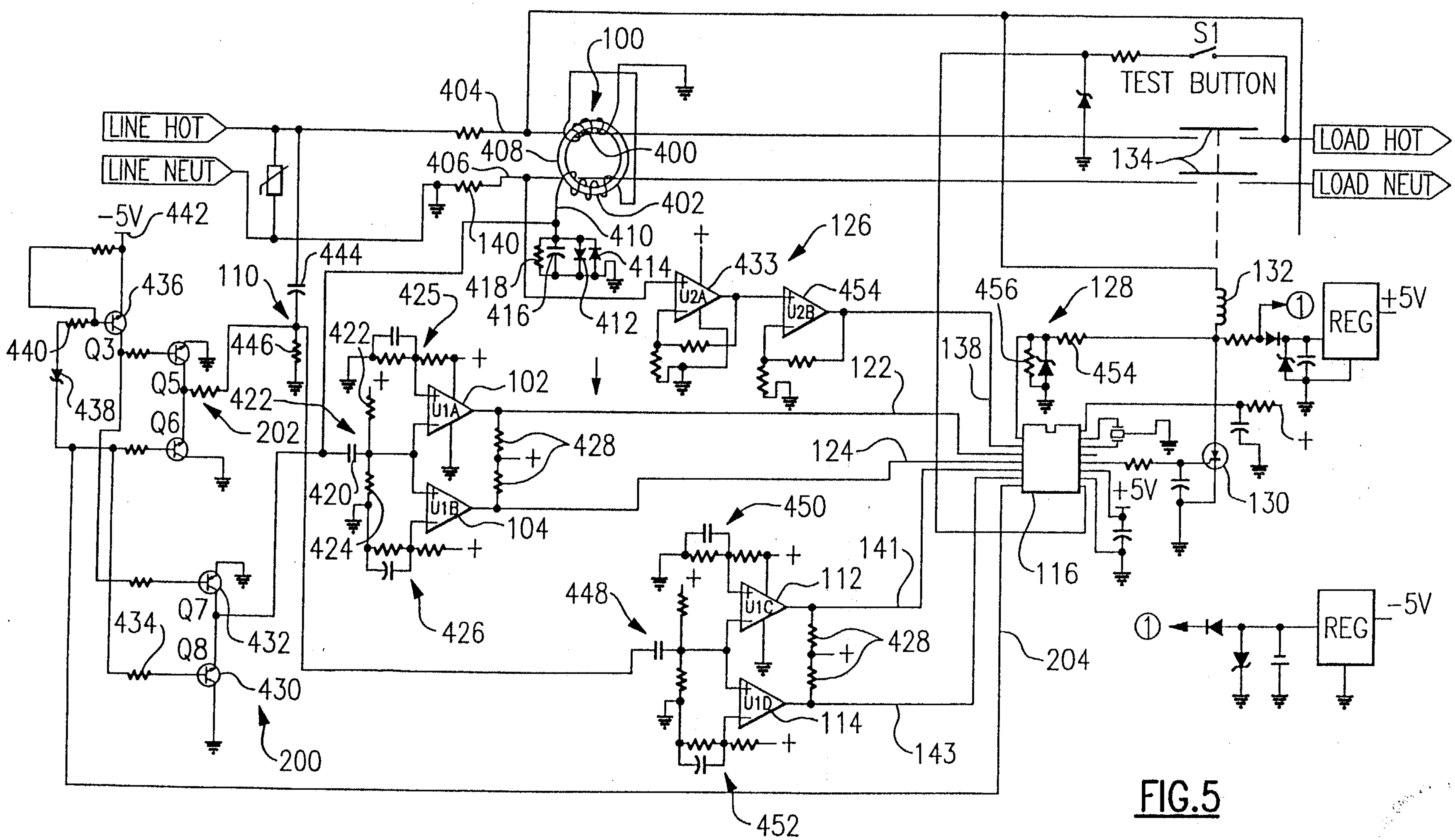


FIG.4D



LINE HOT
LINE NEUT
LOAD HOT
LOAD NEUT
TEST BUTTON
S1
REG
+5V
-5V
U1A
U1B
U1C
U1D
U2A
U2B
Q3
Q5
Q6
Q7
Q8
100
102
104
110
112
114
116
122
124
126
128
130
132
134
138
140
141
143
200
202
204
400
402
404
406
408
410
412
414
416
418
420
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430
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450
452
454
456

FIG.5

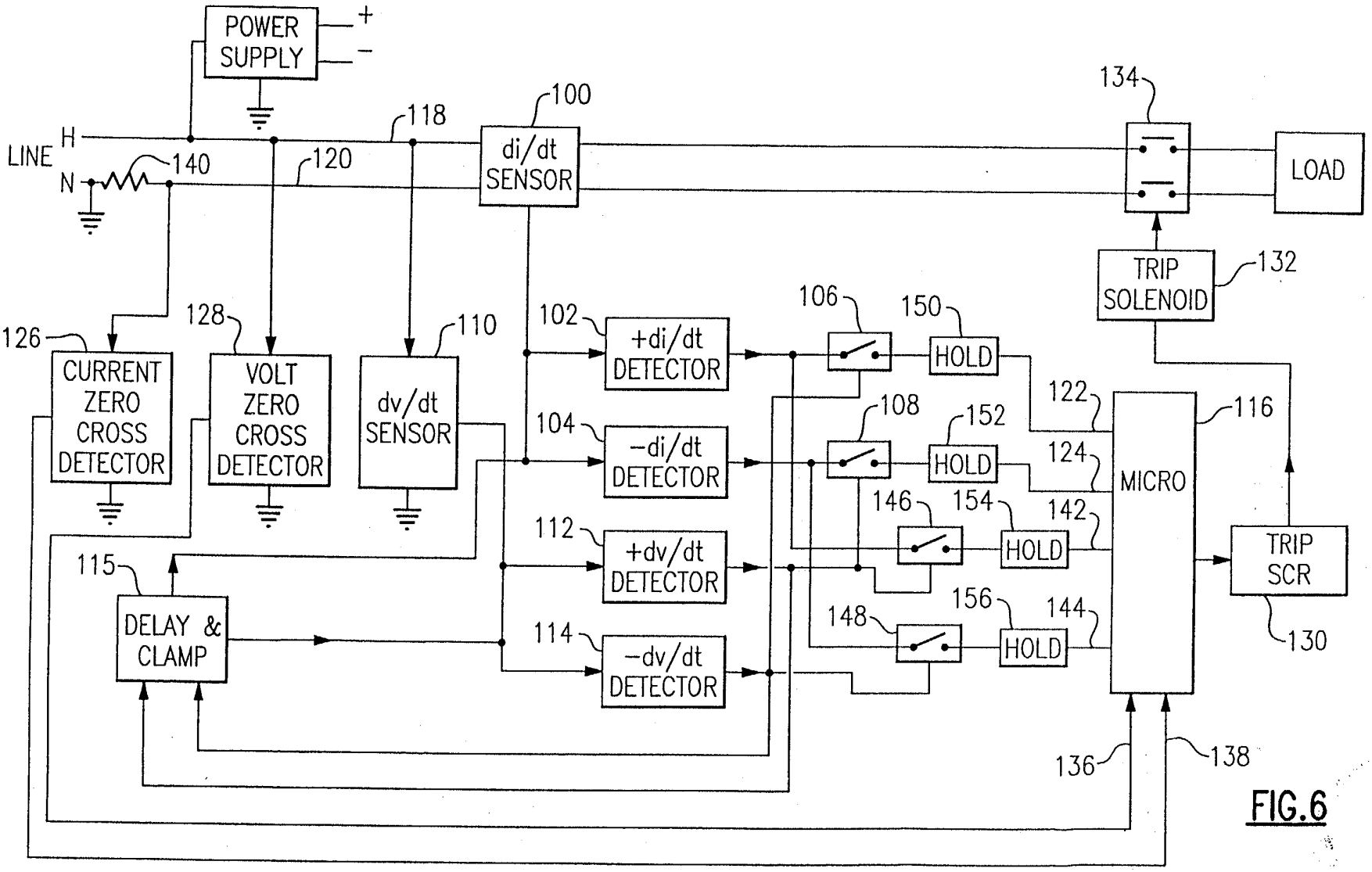

POWER SUPPLY
+
−
LINE
H
N
140
118
120
100
di/dt SENSOR
134
LOAD
TRIP SOLENOID
132
126
CURRENT ZERO CROSS DETECTOR
128
VOLT ZERO CROSS DETECTOR
dv/dt SENSOR
110
102
+di/dt DETECTOR
104
−di/dt DETECTOR
112
+dv/dt DETECTOR
114
−dv/dt DETECTOR
115
DELAY & CLAMP
106
108
146
148
150
HOLD
152
154
156
122
124
142
144
MICRO
116
TRIP SCR
130
136
138

FIG.6

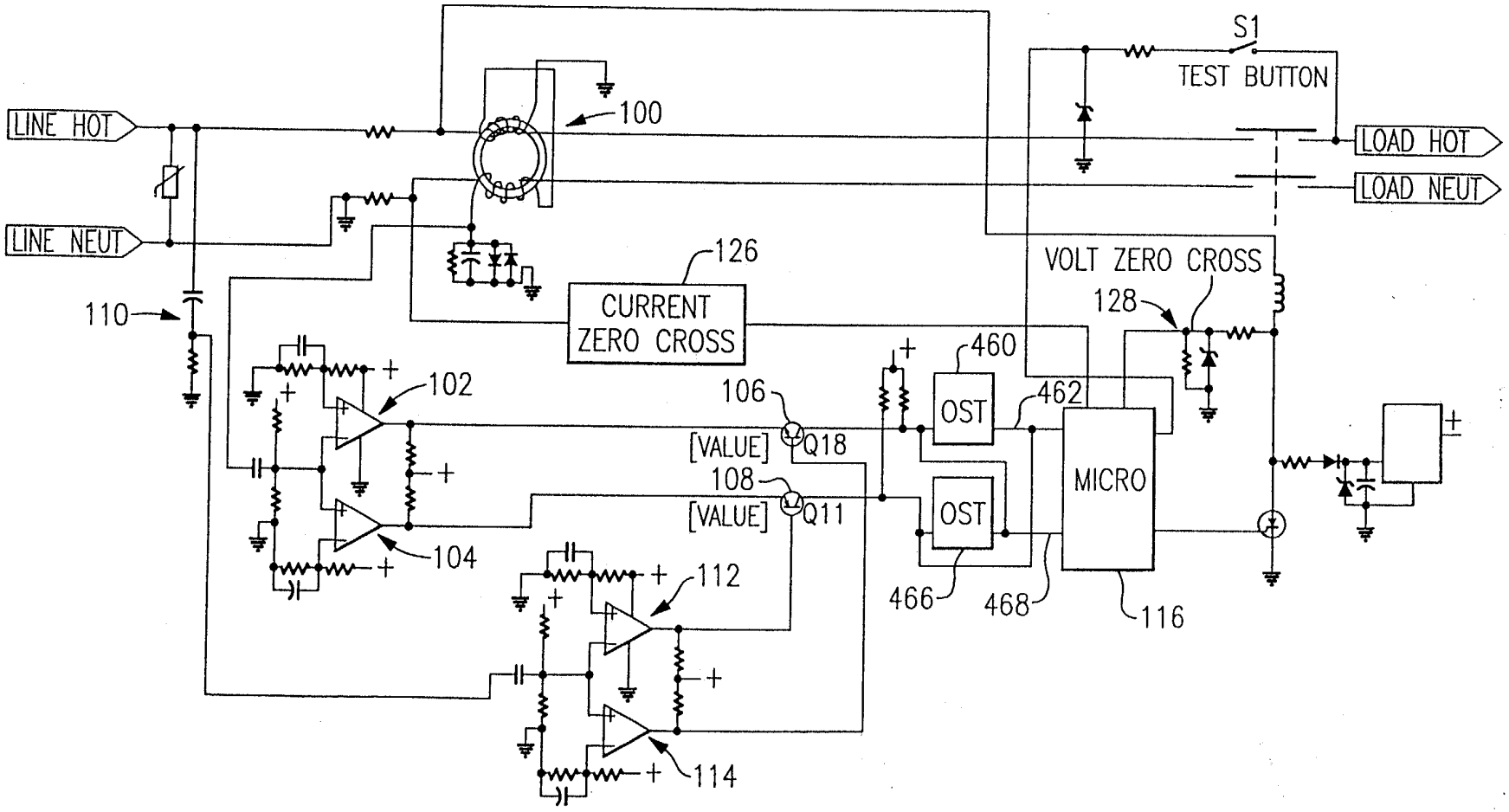

LINE HOT
LINE NEUT
110
100
126
CURRENT
ZERO CROSS
102
104
112
114
106
[VALUE]
Q18
108
[VALUE]
Q11
S1
TEST BUTTON
LOAD HOT
LOAD NEUT
VOLT ZERO CROSS
128
460
OST
462
OST
MICRO
466
468
116

FIG.7

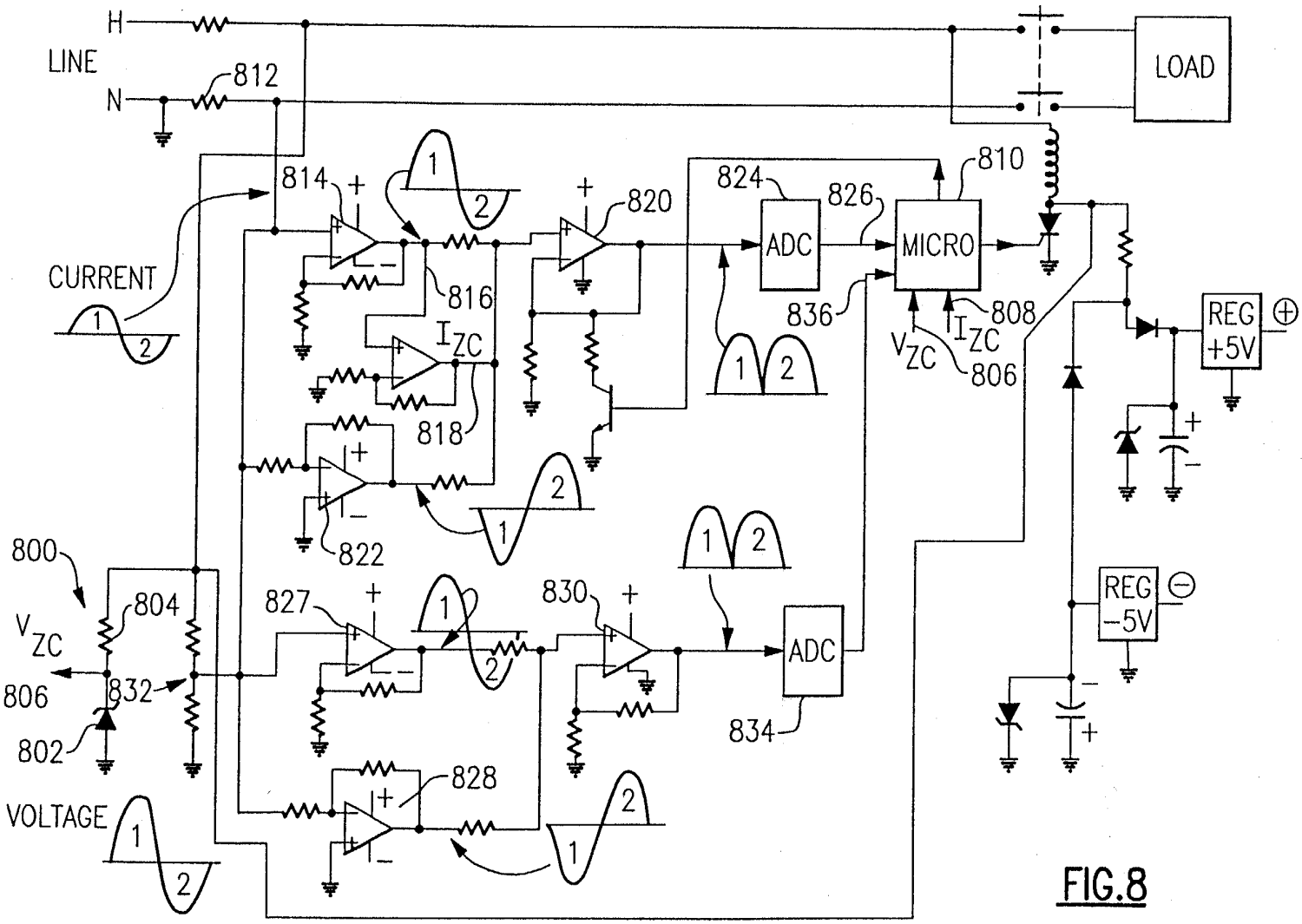

H
LINE
N
812
LOAD
814
820
824
826
810
ADC
MICRO
CURRENT
816
I_{ZC}
818
836
V_{ZC}
808
806
REG
+5V
822
800
804
827
830
ADC
REG
−5V
V_{ZC}
806
832
802
834
828
VOLTAGE

FIG.8

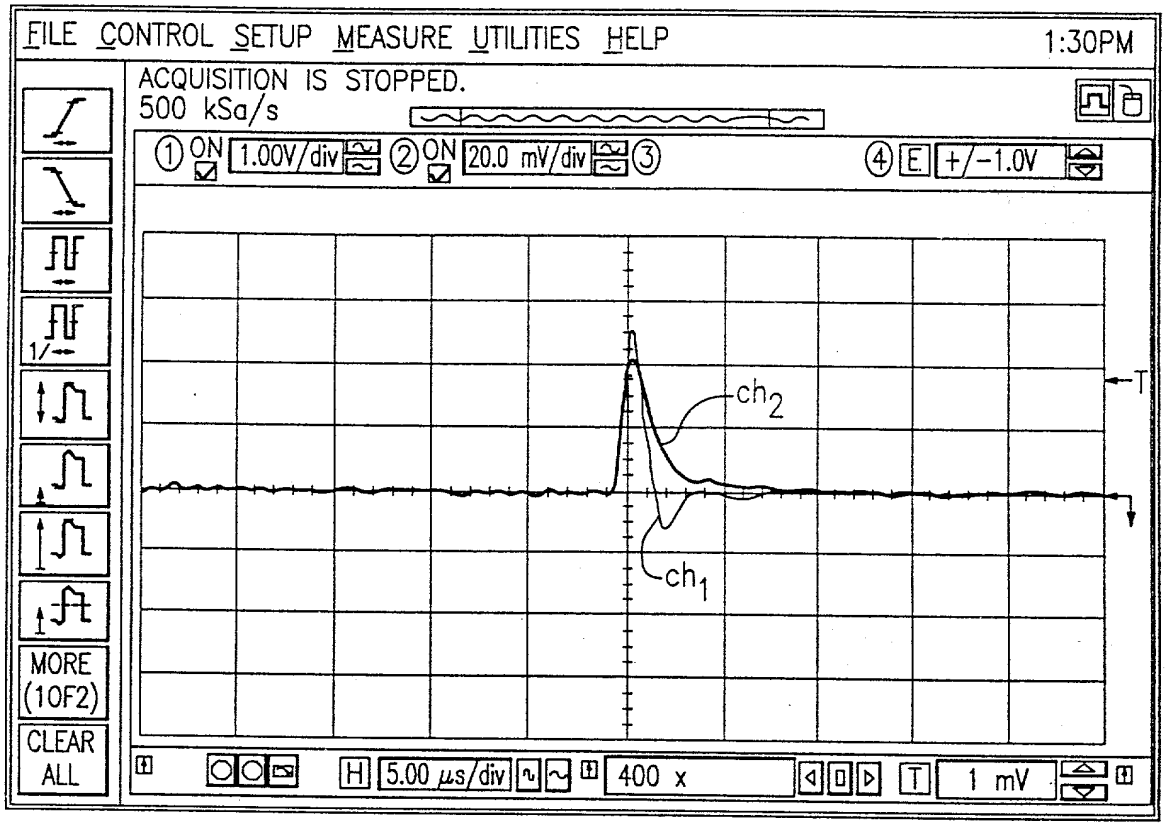


FIG.10

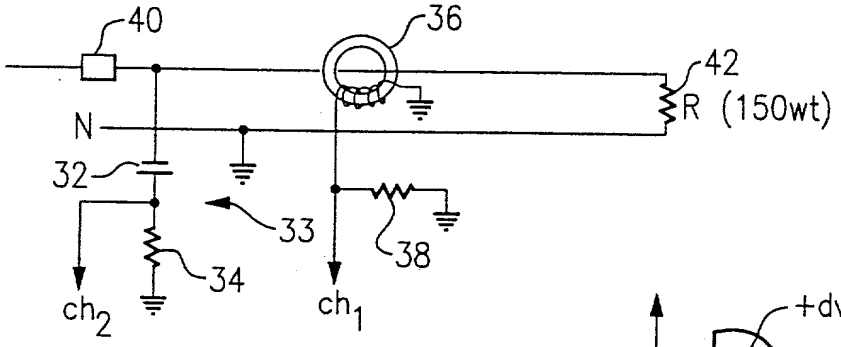


FIG.9

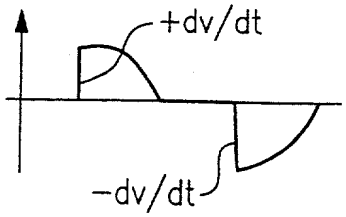


FIG.11

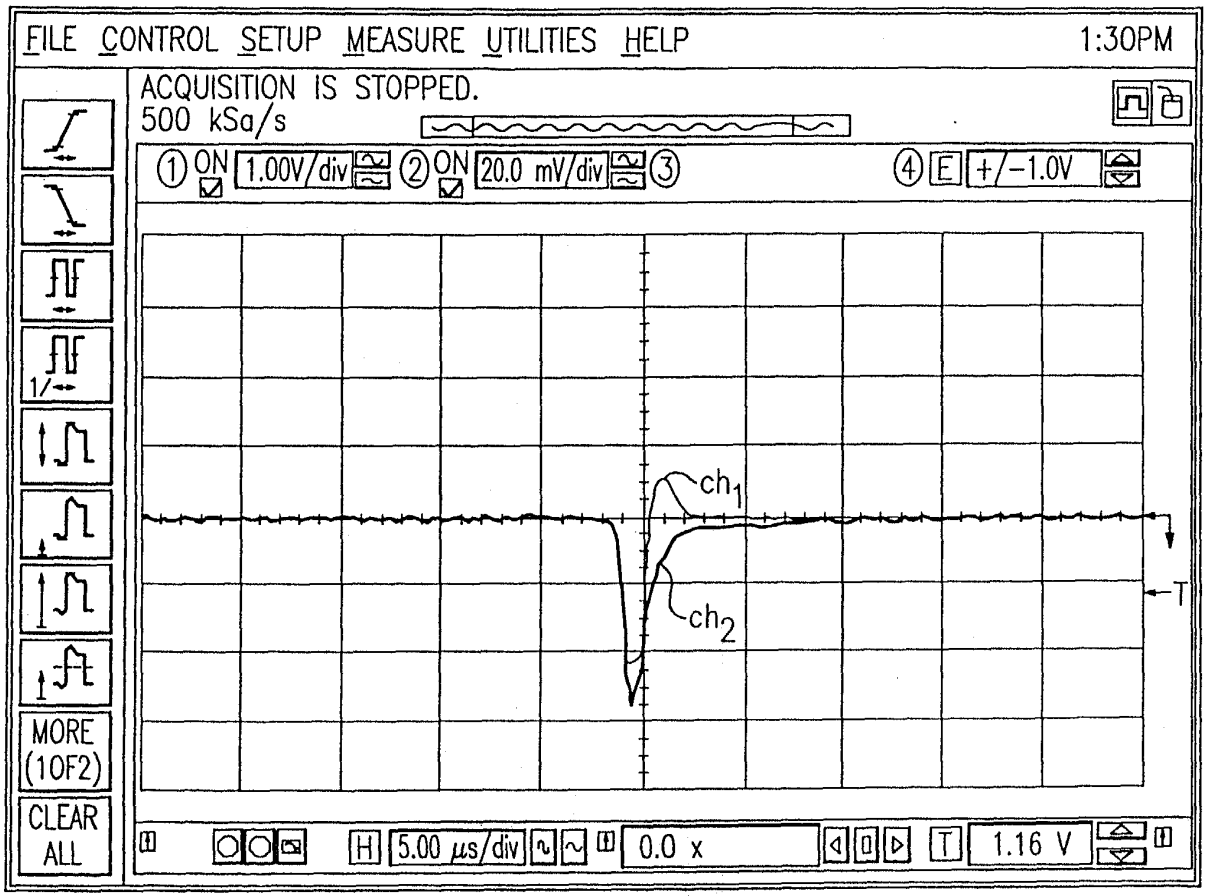

FILE CONTROL SETUP MEASURE UTILITIES HELP
1:30PM
ACQUISITION IS STOPPED.
500 kSa/s
1 ON 1.00V/div
2 ON 20.0 mV/div
3
4 E +/-1.0V
ch1
ch2
T
MORE (1OF2)
CLEAR ALL
H 5.00 µs/div
0.0 x
T 1.16 V

FIG.12

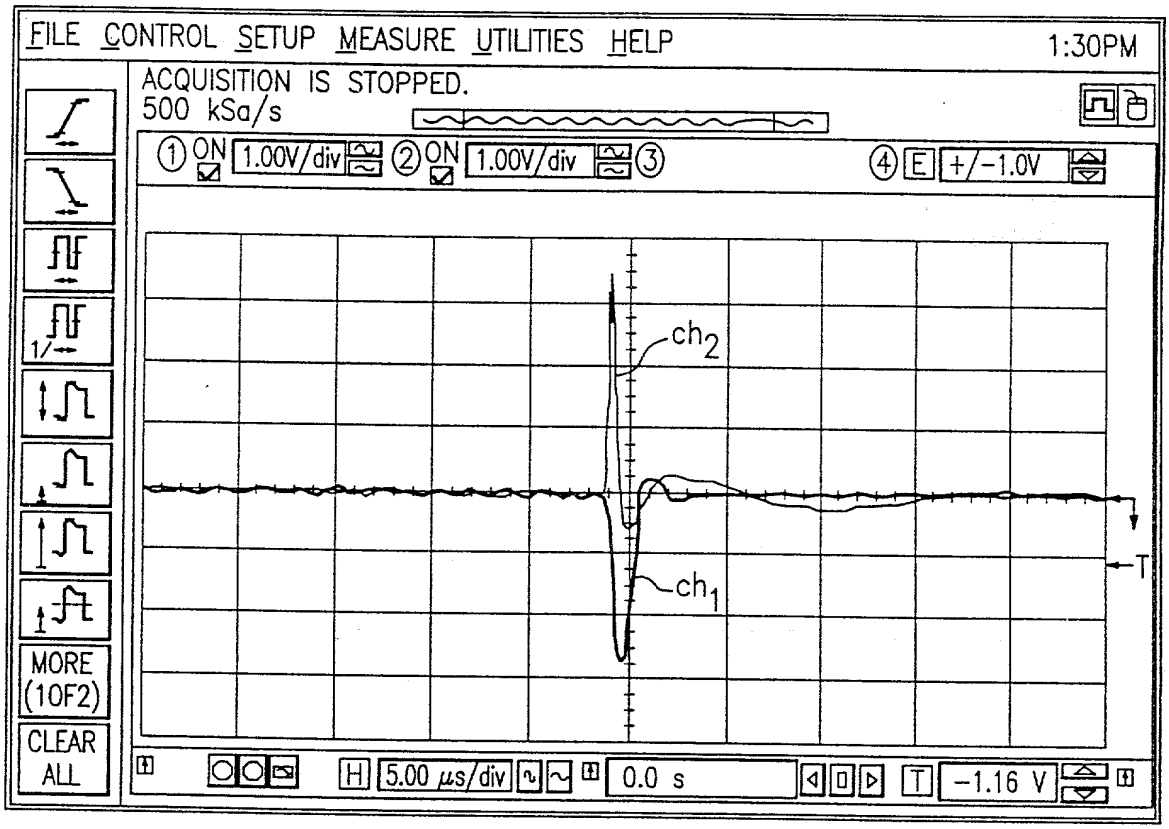

FILE CONTROL SETUP MEASURE UTILITIES HELP
1:30PM
ACQUISITION IS STOPPED.
500 kSa/s
① ON 1.00V/div ② ON 1.00V/div ③
④ E +/-1.0V
ch2
ch1
T
MORE (1OF2)
CLEAR ALL
H 5.00 µs/div
0.0 s
T -1.16 V

FIG.14

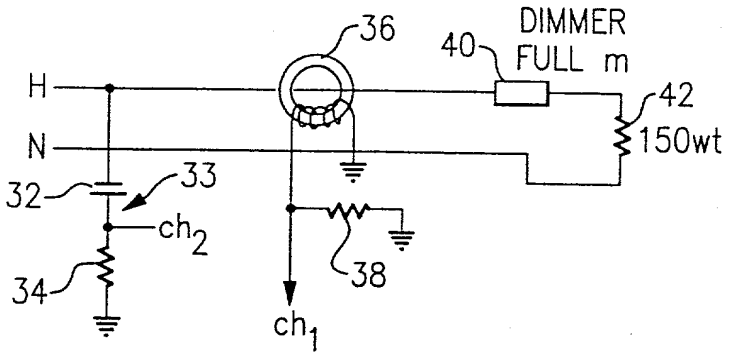

36
DIMMER
40
FULL m
42
150wt
H
N
32
33
ch2
34
38
ch1

FIG.13

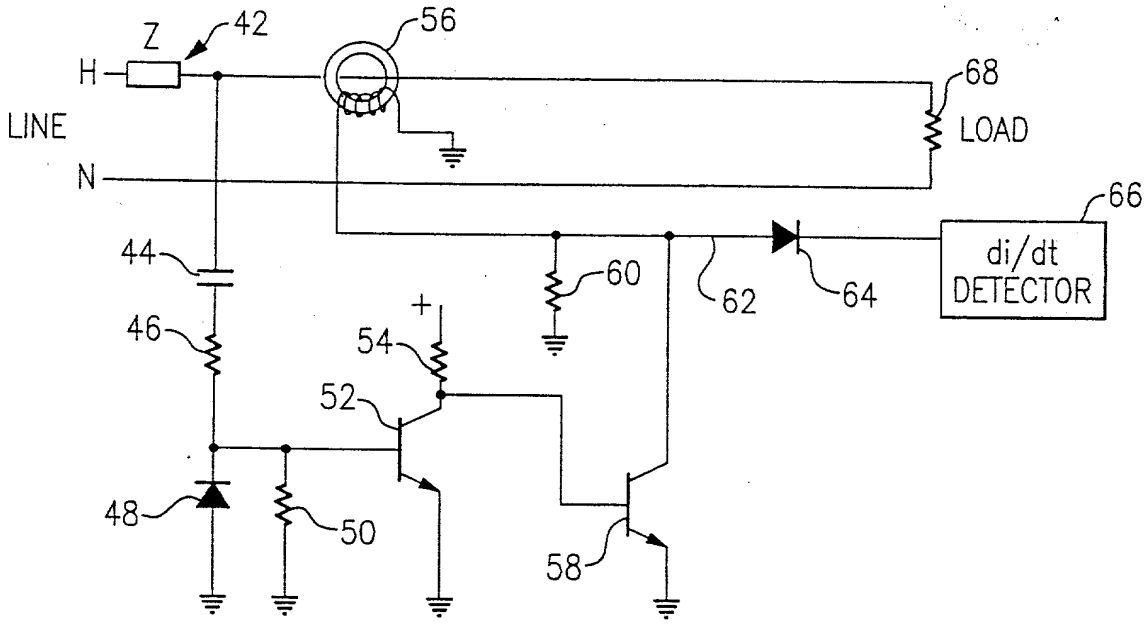

Z
42
56
H
LINE
N
68
LOAD
66
di/dt
DETECTOR
44
60
62
64
+
46
54
52
48
50
58

FIG.15

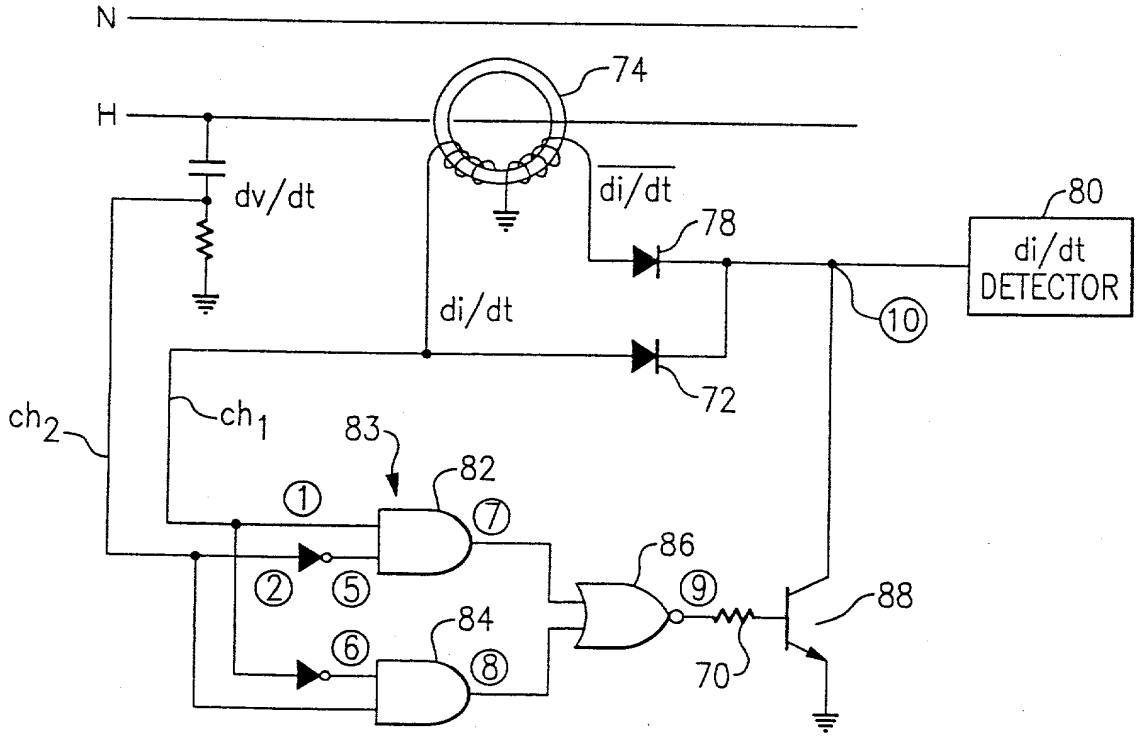
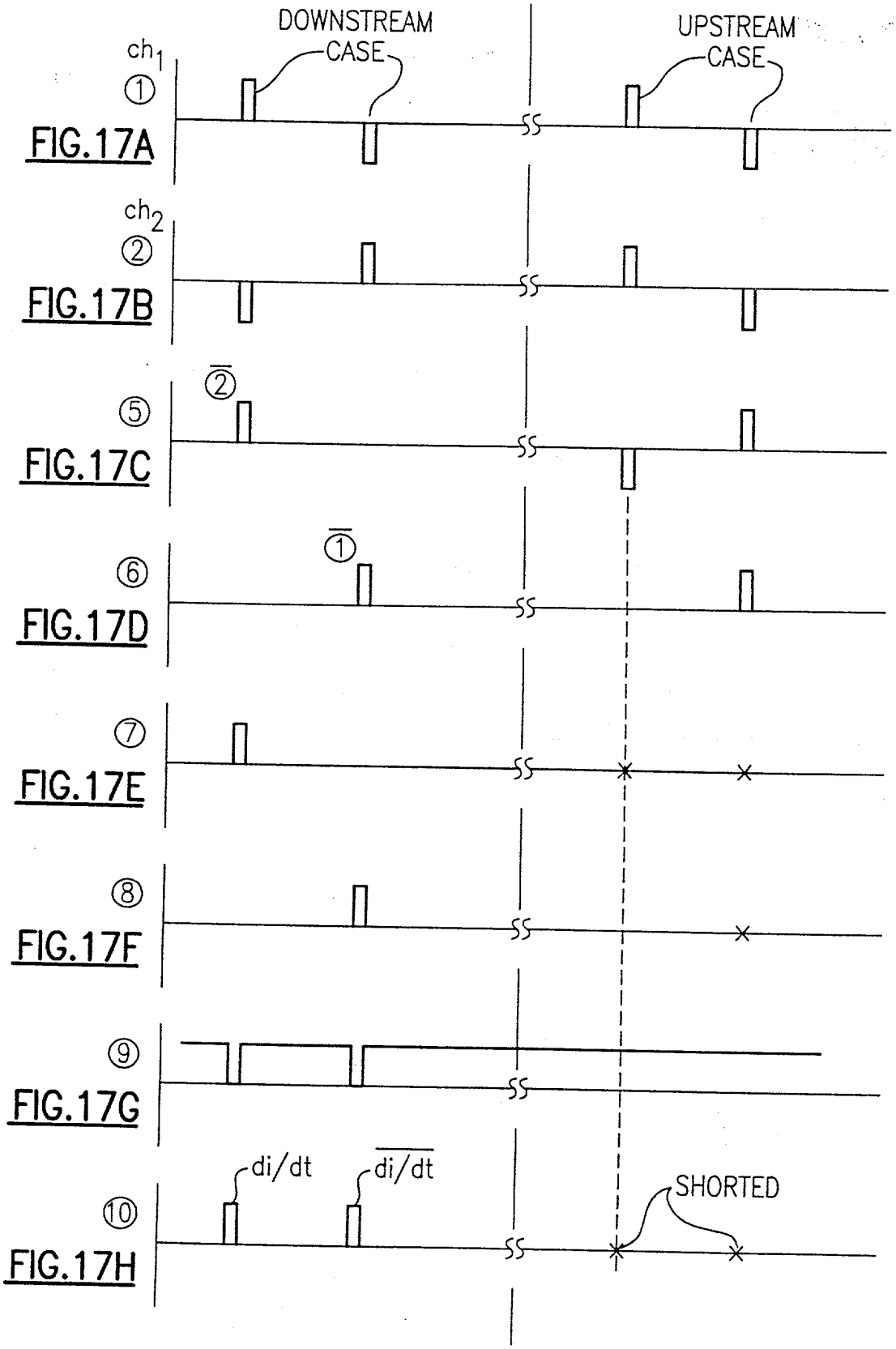

N
74
H
dv/dt
di/dt
80
di/dt
DETECTOR
78
di/dt
10
72
ch2
ch1
83
82
1
7
2
5
86
9
88
6
84
8
70

FIG.16


DOWNSTREAM CASE
UPSTREAM CASE
ch1
①
FIG.17A
ch2
②
FIG.17B
⑤
FIG.17C
⑥
FIG.17D
⑦
FIG.17E
⑧
FIG.17F
⑨
FIG.17G
di/dt
di/dt
SHORTED
⑩
FIG.17H